

In the drawings:

Please replace FIG. 1 with the new replacement drawing sheet attached herewith.

Please add new FIG. 10 as in the attached new drawing sheet.

REMARKS

Reconsideration is respectfully requested. Claim 17 is amended herein. Claims 17, 21 and 23-30 are present.

The drawings are objected to. A replacement FIG. 1 and new drawing FIG. 10 are submitted herewith. These are believed to resolve the Examiner's concerns.

Respectfully replying to the Examiner's remarks 3-5, justifying rejection of claims 17, 21, 23-30 under the first paragraph of 35 U.S.C. §112, the Applicant conveys the following.

The Applicant deferentially does not agree with the Examiner's assertion of remark 3 that "The claim(s) contain(s) subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention". Actually the application 09/601, 913 «Method for playing a space game and devices for realizing this method» had been filed with the USP&TO on 8/9/2000. The Applicant agrees that for the beginning he did not expressed himself quite clearly, but in process of argumentation with USP&TO, with kind help of the Examiners the Applicant made his claims much more cogent. Nevertheless the Applicant respectfully insists that in the original description of his invention there had been described the main idea as well as all the main elements of the invention:

- idea of playing a space game of chance based on using of stochastic characteristics of micrometeorite flows in the near Earth space;
- "target" for registration of random spatial distribution of micrometeorites through their collisions with gaming fields;
- device providing the optimal use of these stochastic characteristics;
- method of playing the game of chance, using features of this device.

As it may be proved by the original description as well as by the title of invention itself, the Applicant from the beginning have meant a new device providing playing a game of chance as well as method of playing such a game. From the general theory of games it is follows that any game of chance is based on use of random events or numbers obtained by use of devices called by modern science as Random Number Generators (RNGs). RNGs are based on use of somehow stochastic processes. Examples of RNGs are such old devices as dice or roulette wheel. For playing a new game of chance, which was fairly called "space" game, the Applicant has proposed design of absolutely new for common games device, actually being RNG, based on using of stochastic characteristics of micrometeorites flows in the near Earth space. The Applicant always emphasized that the main feature of the device is "target" for registration of random spatial

distribution of micrometeorites through their collisions with gaming fields.

The Applicant believes that such approach will lead to further development of gaming industry and its fruitful convergence with space science.

In result of long correspondence with USP&TO, the design of device for support of a game of chance using stochastic characteristics of micrometeorite flows in the near Earth space, equipped with "target" for registration of random spatial distribution of micrometeorites through their collision with gaming fields, and the idea of playing space game itself have been embodied in the in the wording of claim 17. So the Applicant, in all the course of consideration of his application by USP&TO, always has aimed acknowledgement of a new space RNG design of claim 17 and new method of playing space game of claim 21 using space RNG of claim 17.

Ability of the new RNG to generate random numbers may be proved by research data by NASA and ESA (institutions skilled in the art of micrometeorites research), and possibility of using the new space RNG for playing space game of chance may be proved by general theory of games of chance. So the Applicant respectfully objects to the assertion of remark 3 and believes that in the original description there actually were present all the main elements of invention, reasonably conveyable to

institutions skilled in the relevant art, and the Applicant actually had possession of the claimed invention.

The Applicant thanks the Examiner for arguments presented in remarks 4 and 5, proving insufficient clarity of presented description of the applied Random Number Generator (RNG) design. The Applicant is going to redeem his faults and asks the Examiner to consider the description of his invention taking into account the following.

The Applicant believes that the main idea of his invention is proposal to use stochastic characteristics of great scale natural process, actually of micrometeorite flows in the near Earth space, for generation of random numbers by invented RNG (claims 17, 23-26), further used for playing a space game according to invented space - adopted method (claims 21, 27-30). The Applicant believes that the main distinctive feature of the proposed RNG design is "target" for registration of random spatial distribution of micrometeorites through their collisions with gaming fields (set of physically separated plane gaming fields provided with identification markers and sensors of collisions with micrometeorites).

All the features of the applied invention follow from the features of the natural process used for generation of random numbers and are contained in the design of space RNG by claim 17. Other claims are either further evolution of the design (claims 23-26) or adoption of traditional methods of playing games, for

example, roulette, taking into account the features of the space RNG. For illustration let us consider designing process of a traditional RNG. Following general, well known principles of RNG designing, the RNG based on a selected stochastic process has to ensure following:

- putting of the registering element of RNG into a place where selected manifestations of the stochastic process go on;
- registration of selected manifestations of the stochastic process in space and time;
- generation of random numbers on the base of the registered manifestations;
- transmission of the generated random numbers to the receiving element of RNG deployed in a place of random numbers consumption;
- provision of customers with received random numbers.

The Applicant has proposed to use for RNG the stochastic process of micrometeorite flow in the near Earth space and has selected the collisions of micrometeorites with an artificial material object placed into the flow as manifestation of this process. The Applicant has decided that since the collisions have to be used for generation of random number, which, in their turn, have to be further used in a game of chance, the part of the surface of this material object where these "gaming" collisions go on ("gaming" surface) must have shape ensuring equal probability of collisions for all elements of this "gaming"

surface of equal square. The simplest example of such surface is plane. Furthermore, to ensure elimination of ambiguity, this "gaming" surface can not be continuous, but must be physically separated into "gaming" fields of equal square.

One more distinctive feature of the proposed invention is determined by the circumstance that generation of random numbers go on in space, but consumption - on Earth. Transmission has to be implemented by radio. But transmission of gaming random numbers must be protected. So, unlike conventional RNG, the space RNG has ensure enciphering of the random numbers during their transmission from space to Earth.

The Applicant took into account all these features and, applying general principles of RNG designing, has developed design of new space RNG, consisting of following functional elements:

- registering element of RNG, placed onboard a spacecraft orbiting Earth on orbit of stochastic flow of micrometeorites; the registering element is provided with means for unambiguous registration of spatial location of place of micrometeorite collision ("target" or, in other words, set of physically separated plane gaming fields provided with identification markers and sensors of collisions with micrometeorites) and means for registration of collision time (onboard clock, registering time of actuation of collision sensors);

- generating element of RNG, placed onboard the spacecraft and being an electronic unit which analyses signals from sensors of collisions simultaneously with indications of onboard clock and generates random numbers; in the simplest example the random number might consist of two parts: "timing" part corresponding to time of collision expressed in hours, minutes, seconds and parts of seconds and "identification" part corresponding to numeral value of identification marker attached to the gaming field affected by regular collision with identification markers being for example numbers from 1 though 64;

- enciphering element of RNG, placed onboard the spacecraft and being electronic unit transforming the obtained random numbers into enciphered signals for transmission from space to Earth;

- transmitting element of RNG (telemetry channel), placed onboard the spacecraft and being conventional transmitter for transmission of enciphered signals from space to Earth;

- receiving element of RNG, placed on Earth and being conventional receiver of satellite signals equipped with electronic units for deciphering of signals received from space and for further transmission of obtained random numbers to the place of their consumption, in other words, to the place of playing space game of chance;

- presenting element of RNG, placed in the place of playing space game of chance and being electronic unit for presentation

the obtained random numbers directly to the players, for example on display, computer monitor, TV or radio receiver.

All the functional elements of the applied RNG are connected by functional links and independently of their locations constitute an integrated device ensuring provision of customers with new product, namely random numbers on the base of stochastic characteristics of micrometeorite flows in the near Earth space.

The simplest example of implementation of the method of playing the space game according to claim 21 with use of the space RNG of claim 17 might be the following sequence of actions:

- switching on and testing of all the elements of the space RNG and familiarization of players with features of their operation in the place of playing the space game;

- proposal to players to gamble on whether or not a collision of a micrometeorite with the concrete gaming field of the registering element of the RNG will happen during a predetermined time span, in other words, whether or not there will be received the random number, «time» part of which lies in the predetermined span and «identification» part is equal to numeral value of identification marker of concrete gaming field;

- provision of players with gaming information (random numbers) on the presenting element of RNG, including any of its modifications of claims 23-26, informing about game events, in other words, about collisions with micrometeorites in predetermined time span;

- naming the winners, who had gambled exactly on the gaming field affected by collision.

It is reasonable to note that the Applicant does not put additional restrictions or limitations on the functional elements of the space RNG, except those which ensure fail-safety of them in the places of operation (in open space, onboard spacecraft, on the Earth), including clock "for registration of time..." and other technical facilities.

In response to Examiner's assertion of remarks 6 - 9, under the second paragraph of 35 U.S.C. §112 the Applicant conveys the following.

The Applicant respectfully does not agree with Examiner's assertion of remark 7 and insists that there actually is definition of "subject matter which Applicant regards as the invention" presented in the description. Nevertheless the Applicant thanks the Examiner for his valuable remark and asks to consider the following definition of "subject matter", composed by the Applicant basing on the items originally presented in different parts of description. The subject matter of the applied invention is design of Random Numbers Generator (RNG) using stochastic characteristics of micrometeorite flows in the near Earth space for generation of random numbers further using for playing space game of chance, as well as method of playing this game.

The Applicant thanks the Examiner for remarks 8 - 9, implying deficient clarity of terms used in the wording of the claim 17. Basing on these remarks as well as on arguments presented above, the Applicant asks the Examiner to consider the new wording of claim 17, rewritten as new claim 31.

Regarding the rejection under 35 U.S.C. §112, 4th paragraph, while applicants respectfully believe the claims as presented were of proper form, amendment is made to claim 21 to attempt to re-word the claim sufficiently to resolve the Examiner's concerns.

In view of the above amendments and remarks, reconsideration and allowance are respectfully requested.

The Examiner is asked to contact applicant's attorney at 503-224-0115 if there are any questions.

It is believed that no fees are due with this filing. However, if it is determined that fees are required to keep the application pending, please charge deposit account 503036. If a refund is owed, please refund deposit account 503036.

Respectfully submitted,


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